

CLAIMS

1. An arch support device, comprising:

2 a support member having a periphery shaped to conform to at least
4 part of the periphery of the sole of a wearer's footwear, the member having
an upper surface, a lower surface, and being contoured to follow the
6 contours of the sole of a wearer's foot, the member having a heel region at
one end, an arch region, and a toe region at an opposite end, each region
being designed to lie under the corresponding regions of a wearer's foot
8 when in use;

at least the heel region of the lower surface having a slip-resistant
10 surface portion for resisting slipping of the element relative to the sole of a
shoe in which it is inserted, the slip-resistant surface portion having a surface
12 roughness of not more than 0.02 inches peak to valley.

2. The device as claimed in claim 1, including a second slip-resistant
2 surface portion in the toe region of the lower surface of the arch support
member.

3. The device as claimed in claim 1, wherein the upper surface of the
2 arch support member has a slip-resistant surface portion extending over at
least part of the upper surface.

4. The device as claimed in claim 3, wherein slip-resistant portions are
2 provided in predetermined areas of the heel region and toe region of the
upper surface.

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- 2 5. The device as claimed in claim 1, wherein the slip-resistant portion extends over the entire lower surface of the arch support member.
- 2 6. The device as claimed in claim 5, wherein the entire upper surface of the arch support member has a roughened surface texture identical to that of the lower surface.
- 2 7. The device as claimed in claim 1, wherein the slip-resistant portion comprises a frosted surface texture formed in the arch support member.
- 2 8. The device as claimed in claim 7, wherein the frosted surface texture extends over the entire lower surface of the arch support member.
- 2 9. The device as claimed in claim 7, wherein the upper surface of the arch support member has a frosted surface texture extending over at least part of the upper surface.
- 2 10. The device as claimed in claim 9, wherein the frosted surface texture extends over the entire upper surface of the arch support member.
- 2 11. The device as claimed in claim 1, wherein the slip-resistant portion comprises a layer of a slip-resistant material secured to the lower surface of the arch support member.
- 2 12. The device as claimed in claim 11, wherein the slip-resistant material is rubber.

13. The device as claimed in claim 11, wherein the lower surface of the member has an indent in the heel region, and the slip-resistant layer comprises an insert secured in the indent with an outer surface substantially flush with the lower surface of the arch support member.

14. The device as claimed in claim 13, wherein the lower surface has a second indent extending across the toe region, and a second insert of slip-resistant material is secured in the second indent.

15. An arch support device, comprising:

a member having a periphery shaped to conform to at least part of the periphery of the sole of a wearer's footwear, the member having an upper surface, a lower surface, and being contoured to follow the contours of the sole of a wearer's foot, the member having a heel region at one end, an arch region, and a toe region at an opposite end, each region being designed to lie under the corresponding regions of a wearer's foot when in use; and

a textured, slip-resistant surface portion extending over at least part of at least one of the surfaces of the arch support member, the slip-resistant surface portion covering an area equal to at least one quarter of the total surface area of the lower surface.

16. The device as claimed in claim 15, wherein the slip-resistant surface portion is provided in the lower surface.

17. The device as claimed in claim 15, wherein the slip-resistant surface portion is provided in the upper surface.

18. The device as claimed in claim 15, wherein textured, slip-resistant surface portions are provided on both the upper surface and the lower surface of the arch support member.

19. The device as claimed in claim 15, wherein the slip-resistant portion comprises a frosted surface texture.

20. The device as claimed in claim 19, wherein the entire lower surface of the arch support member has a frosted surface texture.

21. The device as claimed in claim 20, wherein the entire upper surface of the arch support member has a frosted surface texture.

22. The device as claimed in claim 15, wherein the slip-resistant portion comprises an injection molded surface finish produced by a sand-blasted mold surface.

23. The device as claimed in claim 15, wherein the slip-resistant portion has a surface roughness in the range from 0.0005 to 0.02 inches.

24. The device as claimed in claim 23, wherein the slip-resistant portion has a surface roughness in the range from 0.001 to 0.002 inches.

25. An arch support device, comprising:

a member having a periphery shaped to conform to at least part of the periphery of the sole of a wearer's footwear, the member having an upper surface, a lower surface, and being contoured to follow the contours of the sole of a wearer's foot, the member having a heel region at one end, an arch

6 region, and a toe region at an opposite end, each region being designed to
lie under the corresponding regions of a wearer's foot when in use; and

8 a textured, slip-resistant surface portion extending over at least part
of at least one of the surfaces of the arch support member, the slip-resistant
10 surface portion comprising a random, frosted, injection molded surface
texture [produced by a sand-blasted mold surface]

26. A method of manufacturing an arch support device, comprising the
2 steps of:

providing a mold of predetermined shape and dimensions for forming
4 a one-piece arch support member having a periphery shaped to conform to
at least part of the periphery of the sole of a wearer's footwear, the member
6 having an upper surface, a lower surface, and being contoured to follow the
contours of the sole of a wearer's foot, the member having a heel region at
8 one end, an arch region, and a toe region at an opposite end, each region
being designed to lie under the corresponding regions of a wearer's foot
10 when in use;

the mold having a first surface for forming the upper surface of the
12 arch support member and a second surface for forming the lower surface of
the arch support member;

14 roughening at least one of the first and second surfaces over at least
part of the area of the surface to form a surface roughness in the range of
16 0.005 to 0.05 inches peak to valley;

injecting molten plastic material into the mold; and

18 allowing the plastic material to harden before releasing the molded
arch support member from the mold, the surface of the arch support member
20 corresponding to the sand-blasted surface in the mold having a frosted, slip-
resistant surface texture corresponding to the area of the mold surface which

22 was sand-blasted.

27. The method as claimed in claim 26, wherein the step of roughening
2 the mold surface comprises roughening the entire area of the mold surface.

28. The method as claimed in claim 26, including the step of roughening
2 both mold surfaces, whereby the molded arch support member has a frosted,
slip-resistant surface texture on both its upper and its lower surface.

29. The method as claimed in claim 26, wherein the step of roughening
2 the mold surface comprises sand-blasting at least part of the mold surface.

30. The method as claimed in claim 29, including the step of sand-blasting
2 both surfaces of the mold, whereby the molded arch support member has
a frosted, slip-resistant surface texture on both its upper and its lower
4 surface.

31. The method as claimed in claim 29, wherein the sand-blasted surface
2 of the mold has a surface roughness in the range from 0.001 to 0.01 inches.

32. The method as claimed in claim 31, wherein the surface roughness is
2 in the range from 0.001 to 0.002 inches.